

REMARKS

Favorable reconsideration of this application is respectfully requested.

The specification is herein amended to correct minor grammatical and idiomatic informalities. No new matter is believed to be added.

Claims 1-7 and 10 are pending in this application. Claims 1-7 and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 6,294,226 to Shimamura. That rejection is traversed by the present response as discussed next.

Initially, applicants note the claims are herein amended to clarify certain claim terminology and to additionally recite “high frequency distribution means which switch the high frequency supply on and off independently for each external electrode.” That subject matter is believed to be clear from the original specification, see for example page 38, line 15 to page 39, line 16.

Applicants respectfully submit independent claim 1, and thereby the claims dependent therefrom, as currently written positively recite features neither taught nor suggested by Shimamura, and thus are allowable over Shimamura, as now further discussed.

First, applicants note the outstanding Office Action recognizes certain deficiencies in Shimamura by stating “Shimamura fails to teach that a plurality of housing spaces are provided for each external electrode”.¹ The outstanding rejection dismisses such deficiencies in Shimamura by viewing the additional housing spaces as currently claimed as a “multiplication of parts and it is well settled that the mere multiplication/duplication of parts has no patentable significance unless a new and unexpected result is produced”.²

In reply to that grounds for the rejection applicants submit the claims as currently written differ more significantly from Shimamura than as recognized in the Office Action.

¹ Office Action of December 24, 2008, page 3, first full paragraph.

² Office Action of December 24, 2008, page 3, second paragraph.

The claims do not set forth a mere multiplication of parts as in Shimamura but are directed to a different type of device than in Shimamura.

The disclosure in Shimamura was recognized by the applicants of the present invention and is discussed in the present specification. That is, one of the priority documents on which Shimamura is based is JP9-61338, which corresponds to Japanese Laid-Open patent publication no. HEI 10-258825 discussed in the present specification at page 1, line 16 *et seq.* The applicants of the present invention specifically recognized drawbacks in the approach in Shimamura, and in that respect the specification specifically states:

However, in the apparatus described above which proposes one embodiment of a manufacturing apparatus for mass producing DLC film coated plastic containers, problems regarding the following points remain. Namely, because simultaneous film formation is carried out completely for a plurality of containers, ① a high frequency power source having a high output is needed; ② a very large exhaust rate is required; ③ because there is a large time loss due to the need to load and unload the containers all at once, the amount of time that can be spent as film formation time in the time required for one cycle is short; ④ in the case where a manufacturing cycle is repeated to carry out mass production, there is no proposal as to how the loading and unloading of the containers is to be carried out. For example, in the case where the circle is rotated at the container loading time and unloading time and the circle is stopped at the film formation time, because there is a need to carry out control to oppose the inertia of the circle, the power load is large. On the other hand, in the case where the circle is stationary, because a conveyor or the like is needed to supply containers and take out coated containers, the size of the apparatus becomes large.³

Further, in recognizing such drawbacks in Shimamura the present specification also states:

It was thought that the number of arranged high frequency power sources and matching boxes could be made smaller than the number of film forming chambers by using the technology disclosed in Japanese Laid-Open Patent Publication No. HEI 10-258825. However, in such publication, fellow external electrodes arranged at equal intervals are only

³ Specification page 2, line 10, to page 3, line 5.

connected by lead wires, and the distribution of high frequency is shifted slightly by the slack of the lead wires and the connection positions of the lead wires. In particular, because the high frequency is transmitted to the surface of a conductor, the shift of the high frequency distribution becomes remarkable due to the complex surface shape created by the fellow external electrodes connected by the lead wires. Consequently, the technology of this same publication having the principle of simultaneous film formation can not be applied to a rotary type apparatus of the type which carries out film formation successively in accordance with the rotation angle of a rotation support body rotated at a fixed speed, and it is difficult to apply a uniform DLC film over all the plurality of plastic containers.⁴

Shimamura thereby discloses an apparatus in which a plurality of chambers are arranged at equal intervals on a same circle, external electrodes of adjacent chambers are connected by lead wires, and each external electrode is connected to a high frequency power source by a lead wire in a straight line extending from the center of the circle. Shimamura carries out film formation simultaneously thereby in a plurality of containers.

However, as recognized by the applicants of the present invention and as noted in the original specification at page 2, line 10 to page 3, line 5, such a system suffers from drawbacks in requiring a high frequency power source having a high output, requiring a very large exhaust rate, a time required for one cycle being short, and not providing a proposal as to how to unload and unload the containers.

The claimed invention can overcome the drawbacks in Shimamura by (1) a structure in which a film forming chamber including one columnar body serving as an external electrode includes a plurality of housing spaces for housing one plastic container each in one housing space so that a central access of each of the housing spaces is parallel with the central axis of the external electrode and the housing spaces are arranged side-by-side on the same circle that uses the central axis of the external electrode as a center point, (2) a plurality of the film forming chambers arranged on a rotation support body at equal intervals in a

⁴ Specification at page 5, lines 3-18.

circular state, and (3) a high frequency distribution means that switches the high frequency supply on and off independently for each external electrode.

First, with respect to point (3) above, Shimamura does not disclose or suggest the now newly recited “high frequency distribution means which switch the high frequency supply on and off independently for each external electrode”.

With respect to points (1) and (2) above, Shimamura does not disclose or suggest any such structures and such claim structures are not a mere multiplication of parts.

Shimamura discloses for example in Figures 16 and 20 a plurality of chambers C formed in a circle, which is similar to the structure shown for example in Figure 4 in the present specification, which is applied to only a single external electrode. The above-noted points (1) and (2) instead set forth a structure such as shown for example in Figure 6 in the present specification in which each of different film forming chambers 3, each holding plural chambers, are arranged on a rotation support body at equal intervals in a circular state.

Shimamura is not directed to any such structure.

Such a structure in the claimed invention is not a mere multiplication of parts in Shimamura. In Shimamura if parts were multiplied Shimamura would be modified to merely include additional chambers C such as shown for example in Figures 16 and 21, and would not include or suggest a structure such as shown in Figure 6 in the present specification in which chambers that include plural housing spaces are arranged on a rotation support body at equal intervals in a circular state.

In view of the foregoing comments, applicants respectfully submit independent claim 1 as currently written, and thereby claims 2-7 and 10 dependent therefrom, positively recite features neither taught nor suggested by Shimamura, and thus are allowable over Shimamura.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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